

REMARKS

Claims 1-3 and 5-14 are present in this application. Claims 1, 6, 8, 9, and 14 are independent. Claim 14 is new.

Claim Rejection – 35 U.S.C. § 112, second paragraph

Claims 6-8 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Office Action states that the claims are indefinite because “the display substrate” is not positively cited in claim 6 and claim 8. Applicant submits that the claims are definite.

First, the claims explicitly recite a “display substrate.” Second, claim 6 is directed to an apparatus for removing a display substrate from a display substrate accommodating tray. Claim 8 is directed to an associated method. Applicant submits that the “apparatus” is definite at least because it does not omit an essential element. In other words, elements essential for removing a display substrate from a display substrate accommodating tray are recited in the claim. The “display substrate” is not a subcomponent of the apparatus, but the object of the action carried out by the apparatus. Similarly with respect to claim 8, the method is definite as it recites essential steps for removing a display substrate from a display substrate accommodating tray.

The claims being definite, Applicant respectfully requests reconsideration and withdrawal of the rejection.

Claim Rejection – 35 U.S.C. § 103

Claims 1-3, 6-11, and 13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 11-059893 (“Akihiro”) in view of U.S. Patent No. 6,010,005 (“Reames”). Applicant respectfully traverses this rejection.

Claim 1 is directed to a display substrate accommodating tray including, among other things, a bottom section, a frame, and an engaging section. The engaging section extends from a side surface of the frame in a horizontal fashion to be engaged by a carrying section, e.g., a chuck nail, for carrying the display substrate accommodating tray having the display substrate mounted thereon. Thus, the claim is directed to an arrangement having an engagement section capable of being handled in a stable manner by a carrying section of an automatic carrying apparatus.

The Office Action states that Akihiro teaches the claimed elements except for the engaging section extending from a side surface of the frame. Instead, the Office Action relies on Reames for teaching the engaging section, and states that, “it would have been obvious for one of ordinary skill in the art at the time the invention was made to have added the engaging section to Akihiro’s frame as taught by Reames et al. to provide support for transporting the frame to a different location.”

Reames fails to teach the claimed engaging section to be engaged by a carrying section

Reames is directed to a serving tray for serving food and beverages. In embodiments related to relatively large serving trays for carrying the serving tray under heavy loads, the

serving tray includes handles (column 1, lines 21-23; column 2, lines 31-33). The large serving trays are generally of a polygonal or rectangular configuration and are used by cocktail waiters/waitresses for serving meals (column 1, lines 6-10). In a preferred embodiment, Reames' serving tray includes an injection molded frame 12 and handles 30, 31. The handles are formed integrally with the frame as a generally concavo-convex configuration opening in a downward direction (Figures 3 and 4; column 4, lines 14-18). Thus, the tray handles are specifically for handling by a human hand as the tray is for serving meals including food and beverages. The handles of Reames are unsuitable for carrying a display substrate in a stable manner using an automatic carrying apparatus. On the other hand, the claimed engaging section extends from a side surface of the frame in a horizontal fashion "to be engaged by a carrying section."

Thus, Applicant submits that Akihiro and Reames, either alone or in combination, fail to teach or suggest at least the claimed engaging section. Applicant requests that the rejection be reconsidered and withdrawn.

Reames fails to provide a motivation to combine Reames and Akihiro

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). See M.P.E.P. § 2143.01.

Reames is directed to a conventional serving tray for serving food and beverages. Reames' serving tray includes an injection molded frame 12 and handles 30, 31. Thus, Reames

discloses handles for lifting food and beverages by human hands. The handles of Reames are not disclosed as being for carrying a display substrate using an automatic carrying apparatus.

Akihiro discloses a holder that holds and conveys a conveyed object of the shape of sheet metal, such as a glass substrate. In Akihiro, the holder 21 is designed to be conveyed by the arm 16 of a carrier robot by insertion of the arm into an insertion hole 23 of the holder (Figure 6). Akihiro's holder is an improved approach to conveying glass substrates such as flat-panel displays, which have become larger. In the case of large glass substrates, spacing of a glass substrate may be narrow such that the robot arm may damage the front of the glass substrate as it is forced in between stacked glass substrates. (Figures 11, 12; paragraph 0005). Also, since the glass substrate bends while being lifted, the glass substrate may be damaged while coming in contact with a substrate above, and it becomes difficult to stably convey the substrate. Akihiro's holder accommodates glass substrates so that the robot arm can stably convey the glass substrate without causing damage.

Thus, Applicant submits that Reames does not suggest the desirability of combining the handles of Reames with the holder of Akihiro at least because the handles are specifically for handling by a human hand and the tray is for serving meals, while Akihiro's holder is designed specifically for conveying a glass substrate by a carrier robot.

Furthermore, combining the handles of Reames with the tray of Akihiro would render Akihiro's tray unsatisfactory for its intended purpose of conveying by a robot arm.

"If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or modification to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). M.P.E.P. §2143.01.

As noted above, the Office Action states that it would have been obvious to add Reames' handles to Akihiro's frame in order "to provide support for transporting the frame."

Akihiro discloses a holder 21 in which an object of the shape of sheet metal with a big area, without bending, is stabilized and conveyed (paragraphs 0002, 0007, 0014, 0047). The conveyed object is held in a hold section 22 formed in the holder 21 and conveyed by the arm of a transport device inserted in an insertion hole 23. The transport device is a carrier robot that includes a first arm 15 and a second arm 16. The holder is designed to include an alignment hole 24 for an alignment pin and an insertion hole that can tolerate misalignment of the robot arm, enabling the time to raise the substrate holder and conveyance time to be shortened (paragraph 0026).

Applicant submits that including handles on sides of Akihiro's holder, would render Akihiro's holder unsuitable for operation with the carrier robot, which requires exposure to a planar surface underneath the glass substrate. Therefore, at least for this reason, Applicant submits that there is no suggestion or motivation to make the modification proposed in the Office Action.

The same arguments as in the above for claim 1 apply as well to claims 6 and 9. Claims 6 and 9 also recite a display substrate accommodating tray having, among other things, an engaging section extending from a side surface of the frame.

Accordingly, Applicant submits that the rejection fails to establish *prima facie* obviousness and respectfully requests that the rejection be reconsidered and withdrawn.

Claim Rejection – 35 U.S.C. § 103(a); Akihiro, Reames, Nakajima

Claims 5 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Akihiro in

view of Reames and JP 236953 (“Nakajima”).

Claim 5 depends from claim 1. Subject matter of claim 12 is comparable to claim 5 and depends from claim 9. Thus, at least for the reasons above for claim 1, Applicant submits that the rejection fails to establish *prima facie* obviousness for claims 5 and 12, as well.

Nakajima discloses a manufacturing method that incorporates a foamed sheet body 10. Applicant submits that Nakajima also fails to teach or suggest the claimed “engaging section.” Thus, Nakajima fails to make up for the deficiency of claim 1. Accordingly, at least for this additional reason, Akihiro, Reames, and Nakajima, either alone or in combination, fail to teach each and every claimed element of claims 5 or 12.

Applicant respectfully requests that the rejection be reconsidered and withdrawn.

Claim Rejection – 35 U.S.C. § 103(a); Claim 8

Claim 8 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 11-059893 (“Akihiro”) in view of U.S. Patent No. 6,010,005 (“Reames”). Applicant respectfully traverses this rejection.

A similar argument as in the above for claim 1, applies as well to claim 8. Applicant submits that Akihiro and Reames fail to teach or suggest the claimed step of engaging the display substrate accommodating tray at the engaging section. In particular, Akihiro or Reames fail to teach or suggest the claimed engaging section extending from a side surface of the frame, for which the carrying mechanism engages the engaging section from above the accommodating tray.

Accordingly, Applicant submits that Akihiro and Reames, either alone or in combination, fail to teach each and every element of claim 8.

Applicant respectfully requests that the rejection be withdrawn.

New Claim

Claim 14 has been added to further recite that the engaging section is provided along the entire periphery of the frame (e.g., see present specification at page 13, lines 17-18). Applicant submits that neither of the references Akihiro or Reames disclose this claimed feature.

Conclusion

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

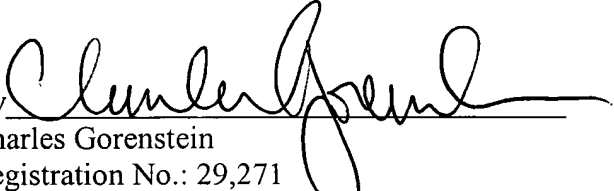
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert W. Downs (Reg. No. 48,222) at the telephone number of (703) 205-8000, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

RWD

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